



KELZIE ROOFINGS

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REAL ROOFINGS

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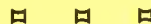


## ROOFS WHEN THE WORLD WAS YOUNG

MAN's fundamental conception of home always has been "a roof over his head." However, in these days of advanced civilization, arrangements for bodily comfort and provision for luxuries have so enlarged the conception that home builders are apt now to give last thought to the roof. But modern comforts are not of full advantage to you without a good roof over your head.

Away back in the dim ages of the world the first roof may have been only a tree. You can picture man of that period, a tremendously muscular, ape-like individual, his mate and their naked children squatting under a wide-spreading tree. The sun is hot and the

shelter of the foliage is very pleasant. By-and-by a storm breaks and the green canopy wards off the flooding rain. Flimsy though it be, this shelter gives a sense of protection, too, against imagined angry "demons" above, who are hurling fire at man.



The man of this family has the good fortune to kill a deer. Eventually the skin is suspended over branches of the tree to "cure." Its value as a shelter soon becomes apparent.

"Why not," the man reasons, "have a skin or several skins suspended over-





head all the time and keep off the rain and the sun, too,—far better than the leaves do it?” Not a very brilliant idea, you may think, but to the uncouth brute-man an amazing inspiration. He has actually contrived a “roof” of his own invention, something far more permanent than a natural bower of leaves. It possesses another advantage—he may erect it where he pleases.

That is significant. It gives him the ability to range the country at will and always be sure of shelter even where there are no trees.

Consider how greatly the growth of civilization and the spread of empire have depended on man’s ability to obtain shelter in the world’s open spaces and you will have more respect for that skin roof. A skin suspended on poles leads our inventive barbarian to enclosing the sides with skins. Primitive man at last has a house of his own construction.

Again, the first roof may have been only the overhang of a rock. Eventually the convenience of this shelter led to the search for caves and the founding of cave-dwelling communities. And the next step was the construction of “caves,” anywhere, out of piled-up stones—the forerunners of stone and brick houses.

Or, shelter beneath the tangled growth of vines over a sturdy tree may have suggested thatch, a form of roof still utilized over the large area of the world’s surface populated by semi-barbaric peoples. Thatch is used even today in many civilized lands. From rough thatch to a supporting structure of interlaced branches was an easy evolution and man then had his first log cabin.



As civilization progressed mankind was quick to appreciate the shortcomings of skins, bark or thatch as roof-



ings. Something more durable was sought. Long after the discovery of metals came the ability to form them into sheets. Copper, renowned from the earliest days for its durability, was used for roofing hundreds of years ago. In fact, it was put to that use long before any other metal was even considered.

Artisans of the Middle Ages in Europe, and craftsmen of five centuries ago in China and Japan, devised means of using Copper for roofing. Copper roofs of that time were costly, for the whole process of manufacture was by hand. Modern machinery and

processes have reduced this cost until Copper roofing and its lifetime service are, today, within the means of those who build modest priced homes.

Scores of famous structures all over the world—great cathedrals and historic shrines—owe their preservation largely to the lasting qualities of their Copper roofs.

The “roof over your head” is as important to the permanence of your home today as was the rudely improvised skin “roof” in giving primitive man his first conception of a fixed “home.”

## CLIMATE AND ROOFS

THE types of roofs in present use are the result of long experience with climatic conditions. It is interesting to trace the influence of the weather on the design of roofs the world over.

The ancient Egyptian temples had flat roofs. Egypt is a dry country and there was no necessity to provide drainage for rainfall. This is true in many regions close to the tropics. The



houses of Scripture were flat-roofed and even today the peoples of Palestine and the adjoining countries use their roofs as breathing spots after sundown.



A GLANCE at a picture of one of the famous Greek or Roman temples will show you a sloping roof. It was and still is essential to provide for drainage of rain water in those countries. Hence buildings were topped with slanting roofs from very early times. The pitch of the roof employed there is much less than the slope given to roofs in countries farther north. That is because snow-fall is not a factor.

Houses in Sweden and Norway, for example, are found to have very steep roofs. They impart a distinctive touch to the buildings of those countries, which brings to mind the countries themselves the minute you look at a picture showing roofs sharp-pointed

like spires. These steep roofs are designed to shed the heavy snowfall as it descends. Climate thus has given an original touch to the architecture of Norway and Sweden, as it has largely influenced types of architecture in every land.



FOR a time American builders deserted the simplicity and attractiveness of the colonial architecture and produced ugly structures. But fortunately there has been a return to the



good types of our earlier history and every new home nowadays, no matter how modest, can be in excellent taste.

Note how largely the roof is effective in giving a distinctive appearance to the new houses 'round about you.

## MODERN TYPES OF ROOFS

YOUR roof is more than a mere cover for your home. It gives dignity, character and beauty to the house. The design and color of the roof are important to the harmony of the structure. In meeting such essential requirements and in point of durability Copper is unsurpassed for roofing purposes. The beautiful, mellow green of a Copper roof—the tint it assumes naturally, although almost any color effect may be secured as desired—is quite often a chief factor in producing a charming exterior.

### KINDS OF ROOF

While there is a great variety of

roofs, the principal types, of which all others are variants, can be confined to five, as follows:

1. The Mansard Type
2. The Gable Type
3. The Gambrel Type
4. The Hip Type
5. The Flat Type

### THE MANSARD ROOF

The mansard was widely popular in the design of dwellings of fifty years ago, and many examples, both good and bad, exist throughout the country to-day. The chief advantage of the man-





MANSARD ROOF

sard roof lies in its maximum utilization of space on the top floor, and its greatest failing appears when, through poor architectural treatment, the building looks top-heavy. This type, or a modification of it known as "Combination Hip and Flat Deck," is particularly adapted to large public buildings where a distinctly formal roof aids the design.

The slanting roof is in most general use for dwelling purposes. The gambrel, gable and hip roof are the prevailing types. It would seem easy to make an appropriate selection as to style from only three types, but there are many different ways of misplacing a roof.

#### THE GABLE ROOF

The gable roof lends itself to use in climates where snow is plentiful. It is the roof most used and perhaps the easiest to construct. It is necessary to

be careful that the gable roof does not project too far over the face of the gable wall. If it hugs the wall the effect is usually pleasing. The roof should have plenty of slope; it is rarely safe to risk a roof at a pitch of less than twenty-five degrees if it is to withstand rain and snow.

#### THE GAMBREL ROOF

The foregoing applies to the gambrel roof as well, although a word of caution is necessary with regard to the slope of the gambrel. It is easy to lose all the charm of this type of roof by bad lines. The roof has a more graceful appearance if it is slightly curved at the eaves.

#### THE HIP ROOF

The fourth type is the hip roof, so called because the rafters run up diagonally to meet the ridge, into which the other rafters are framed. With this



GABLE ROOF

roof, the mistake to watch for is too great overhang of the eaves, in which event the house looks like a man with a hat several sizes too large. It is usually good practice to bring the eaves down as near as possible to the heads of the windows, as this gives the impression of lowness and added charm.

You should avoid an unwise combination of the gable and gambrel. Either the gable and hip, or gambrel and hip combine with pleasing effect. And remember that the smaller the house, the simpler the roof. Try to design the house so that it will not be perfectly square in plan. A pyramid

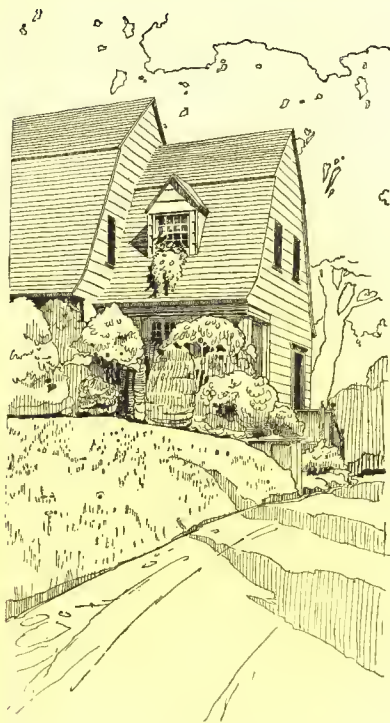
effect on a small house is always unpleasing.

Also, avoid dormers which are so big that they destroy the design of the roof.

#### THE FLAT ROOF

The flat roof, as its name implies, is a roof in which the element of design enters hardly at all. Roofs which are literally flat are usually only portions of roofs, such as small deck areas, for even a flat roof usually has a two-way or one-way pitch sufficient to drain water to gutters.





GAMBREL ROOF

## THE IMPORTANCE OF A GOOD ROOF

“No foot, no horse” is a very old saying. “No roof, no house” applies with equally as much force. A house is only as good as its roof. It must be roofed substantially if home’s full protective purpose and assurance of comfort are to be realized.

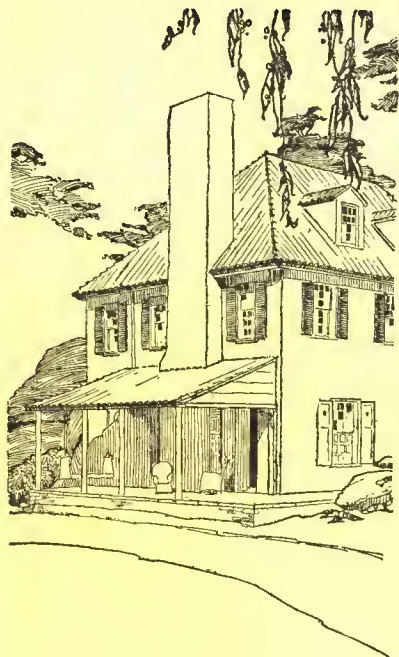
Your roof, like the prow of a vessel, must stem the tide of the elements. It pushes upward against a continuous stream of destructive agencies. Heat and cold, rain, snow and wind are forever pitting their undermining forces against the endurance of your roof.

It is the great protector of your home and will faithfully perform its protective task only to the limit of its

endurance. It can do no more than that. A weakling cannot be expected to do a giant’s work. Hence if you put on a roof that lacks the stamina to grapple with heat, cold, rain, snow and wind—opponents that never weaken in their attack—you need not expect that kind of a roof to outgame them.



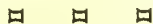
If the natural staying qualities are not there, though you paint and patch, your roof will lose the battle. Meanwhile it has cost you more altogether in money outlay than an enduring roof would have cost at the start, to say



HIP ROOF

nothing of the trouble and disappointment experienced along the way.

A Copper roof stands off and defeats the battling elements.



"OF late years," says Austin C. Lescarbourea, former managing editor of the "Scientific American," in writing on home building, "there has been an increasing tendency to use Copper for roofing purposes, especially in the better types of dwellings. It is purer than most other metals as they are ordinarily manufactured for industrial purposes, and is less active chemically than any but the noble metals (gold and silver). This immunity to chemical attack insures a high resistance to corrosion by air, water, acids and other agencies. In comparison with other metals its endurance may be counted by decades rather than years. For strength coupled with ductility, it is unexcelled.

"There is no maintenance cost for a roof of Copper because it requires no paint and it is impervious to the elements. Its first cost is its only cost. A distinct factor of economy in the roof of Copper lies in its light weight, which permits light instead of heavy roof framing."

"Rust-proof." Therein lies the key to the everlasting qualities of a Copper roof. Exposure to the elements fails to sap its endurance. It gives permanent insurance against leaks which may result in costly damage to the interior of a home, and once installed it eliminates your roofing problems for all time.



MOREOVER, Copper is fireproof, 100 per cent, thus reducing to a minimum the hazard of fire from an adjoining building. Connecting a Copper roof to the ground by Copper downspouts,





GABLE ROOF ON ENGLISH COTTAGE

provides for your home the best possible protection against lightning.

There are, of course, other good roofing materials but time has proved Copper the best. While others may give satisfactory service for a time, you are sure that Copper will give that kind of service as long as your home stands. So why experiment with something else?



COPPER works admirably into any form of roof construction. It is made in sheets of almost pure metal, the impurities being less than 1-10 of one per cent, which accounts for its ability to repel corrosive influences. With a copper roof overhead you have freedom from worry concerning possible leakage. No painting or repairs are ever necessary.

The economy of a Copper roof is readily apparent in the following charting of expense:

| <i>For the Ordinary Roof</i>                                                                                                                                                | <i>For the Copper Roof</i>                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1. Your first cost;                                                                                                                                                         | Only one item of expense, the first cost; <i>no painting, no repairs, no renewals.</i> |
| 2. To which add from thirty to fifty per cent for painting and repairs in from seven to ten years.                                                                          |                                                                                        |
| (You cannot calculate in advance the cost of repairs to interior decoration caused by leakage, generally a sizeable factor);                                                |                                                                                        |
| 3. Then add at least one hundred per cent of the first cost for a new roof at the end of ten years at the outside, when you give up in despair trying to patch the old one; |                                                                                        |
| 4. Multiply the total of the first two items for each succeeding ten-year period.                                                                                           |                                                                                        |



GABLE ROOF ON BUNGALOW

## HOW ROOFS ARE LAID

THERE are four methods of laying Copper roofs, three using sheet Copper and one Copper shingles.

### THE BATTEN TYPE

The Batten or Ribbed type has, as its salient feature, evenly-spaced battens or ribs running with the slope of the roof.

These ribs are usually about two by two and one-half inches, with sides beveled, and are spaced about twenty inches apart. The roof is made of soft Copper worked over the battens.

It is not the least expensive type, for obviously it uses more Copper and

requires more labor than other types. It has in its favor dignity, character and beauty, and by its very construction safely provides against expansion and contraction. On large steep roof areas, such as mansards and gables, for public buildings, churches, or large residences, it gives dignity and character to the structure, lending itself readily to the scheme of ornamentation.

### THE STANDING SEAM TYPE

The second type of Copper roof is the Standing Seam type. Here the construction of the seams amply provides for movement of the metal, due



A COPPER ROOF 175 YEARS OLD  
CHRIST CHURCH, PHILADELPHIA

to changes in temperature, and successfully avoids that monotony characteristic of large roof areas poorly treated. This type is somewhat similar to the batten type and has certain advantages over it; it is less expensive and can be used artistically on smaller buildings having flatter roofs. Like the batten type, it can be used on roofs with steep slopes.

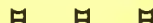
#### THE FLAT SEAM TYPE

The Flat Seam or third type of Copper roof requires a soldered joint. This type of construction is used on flat areas such as porch roofs, mansard tops, flat wide dormers, and entrance canopies.

#### THE COPPER SHINGLE TYPE

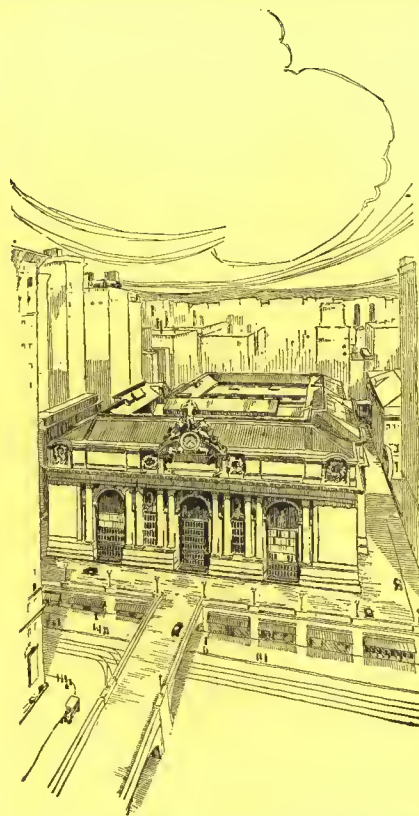
Another form of Copper roofing is Copper shingles. These are made from roofing temper Copper sheets in a va-

riety of sizes and designs. The method of application is simple. Each shingle is secured to the roof sheathing by Copper nails and laps over the adjoining ones in such a manner as to form a water-tight joint. No soldering is required. No allowance for expansion is necessary, as the form of the shingle provides ample room for movement.



COPPER shingles can be laid equally well on new roofs or over old shingles. Because of their raised-butt construction they are lifted slightly, thus providing an air space beneath the surface and the roof sheathing, allowing perfect ventilation with consequent coolness in summer.

Copper shingles are light. A roof so covered weighs only one-ninth as much as slate and one-third as much as wood. This feature means a real economy in structural framing.



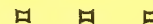
GRAND CENTRAL STATION, NEW YORK  
COPPER ROOFED

#### THE SPANISH TILE TYPE

Spanish Tile is also made of Copper sheet. They combine durability, beauty and ease of installation with lightness—they weigh about one-sixth as much as clay tile.



THE following table affords an interesting basis for comparison of the relative weights of seven types of roofing as compared with two types of Copper roofing:



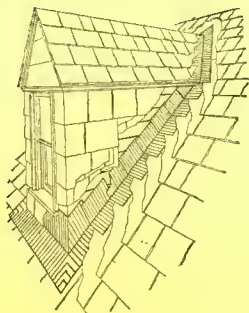
| <i>Material</i>                  | <i>Weight per<br/>100 Sq. Ft.<br/>Laid</i> |
|----------------------------------|--------------------------------------------|
| Shingle Tile .....               | 1200—1800 lbs.                             |
| Spanish Tile .....               | 650—850 “                                  |
| Slate .....                      | 450—675 “                                  |
| Felt and Gravel (or Slag) .....  | 400—625 “                                  |
| Asbestos Shingles .....          | 300—650 “                                  |
| Hardlead Sheets .....            | 210—325 “                                  |
| Wood Shingles .....              | 200—300 “                                  |
| 20 g. Galv. Iron (Corrugated) .. | 225 “                                      |
| 16 oz. Copper (Standing Seam) .. | 125 “                                      |
| Copper Shingles .....            | 84—100 “                                   |
| Tin .....                        | 75 “                                       |

The saving in the structural cost of the framing is thus apparent and demonstrable.

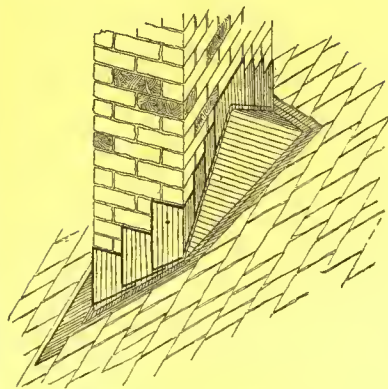
## Above Everything,

## A COPPER Roof





DORMER FLASHINGS



CHIMNEY FLASHINGS

## FLASHINGS, GUTTERS AND DOWNSPOUTS

AN ordinary roof is only as strong as its weakest part, the joints. Flashed with Copper the joints become permanently strong defenses against the inroads of the elements.

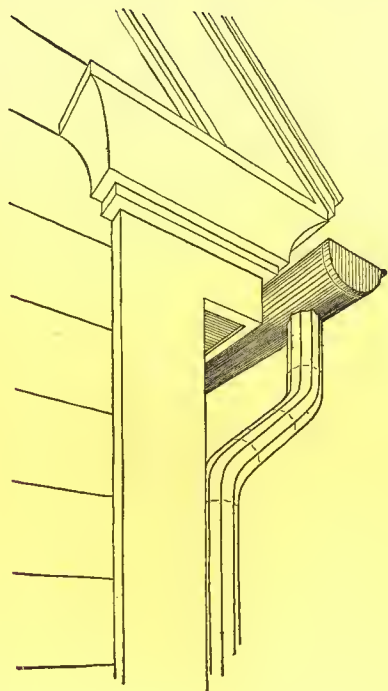


GUTTERS and downspouts are just as important as the roof, and just as much attention must be paid to the proper selection of these as to the roof covering. They have to undergo severe service year in and year out. In the winter snow and ice block them; in the summer heavy showers flood them. They must be of ample size and strength

to meet the test of service. Copper again measures up as no other material can, and has become the standard by which all others are judged. Metals that rust become useless as gutters and downspouts. Their replacement is a constant source of annoyance and expense. Non-rusting Copper gutters and downspouts defy corrosion, retain their full strength permanently and last a lifetime.



THEY are also the marks of the well-built house—an advertisement of the fact that the wise home-builder spent



a little more money at the beginning to save a lot more money in the end.

It is estimated that an average of 250 feet of leaders and gutters are used on the typical American home. Made of Copper, they cost little more than if substitutes are used—a small item in the total cost of building—and Copper lasts as long as the building stands.

On the other hand, the ordinary metal gutters and spouts serve you well if they last three years. The cost of erection is the same in both cases, and the difference in cost of the metal is absorbed before the first replace-

ment of the rusty, wasteful gutters and downspouts is completed.

Should the amount of money at your disposal not permit of a Copper roof on your home, prudence and economy at once suggest Copper for flashings, ridge rolls, gutters and downspouts. They are the parts of any roof that constantly give trouble and cause new expense if not made of non-rusting Copper.

Saving and long lasting service are present wherever Copper is used. They explain why Copper is cheaper—you pay for it only once.

COPPER is Cheaper

You pay for it only ONCE



